

## AMPHIPODS FROM A SOUTH AUSTRALIAN REEF.—PART 2.

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## PLATE XVII.

Family OEDICEROTIDAE Stebb.

OEDICEROIDES Stebb.

*Oediceroides pirloti*, sp. n.

Rostrum strongly curved, reaching to middle of first joint of peduncle. Eyes, contiguous at base of rostrum, the pair together, circular. Sideplate 1 expanded anteriorly and fringed with setae on the anterior lateral margin. Sideplate 2 deeper, only slightly expanded, anterior lateral margin fringed with setae. Sideplate 3 is one and half times as deep as 2, antero lateral angle fringed with short setae. Sideplate 4 deeper than 3 and nearly twice as broad, slightly excavated along the distal margin, antero lateral angle with sparse setae. Sideplate 5 two-thirds as deep as 4, bilobed, with the anterior lobe the larger. Sideplate 6, anterior lobe absent, posterior lobe small, sparsely setose. Sideplate 7 represented by a slight postero expansion of the first joint.

Telson cordate in the dorsal aspect, with four setae on each of the lateral margins and two spines on the apex.

First antenna, first joint subequal to second but nearly twice as wide, second four times third, flagellum of 23 joints.

Second antenna, third joint equal to 1 and 2 together, fourth three times and fifth twice as long as the third joint, flagellum composed of many compressed segments.

All mouth parts very small. Mandible, cutting edge a little produced, dentate; secondary cutting edge, right, blade-like with four teeth, left, columnar with 9-10 teeth; spine row with 11-13 long, weak spines; molar strong with margin finely denticulate; palp with first and third joints equal, small, second joint twice first, weakly curved. Maxilla 1 with 8-toothed spines on inner plate, outer with sparse weak setae, palp with spiniform setae on second joint.

Maxilla 2 with inner plate fringed with setae.

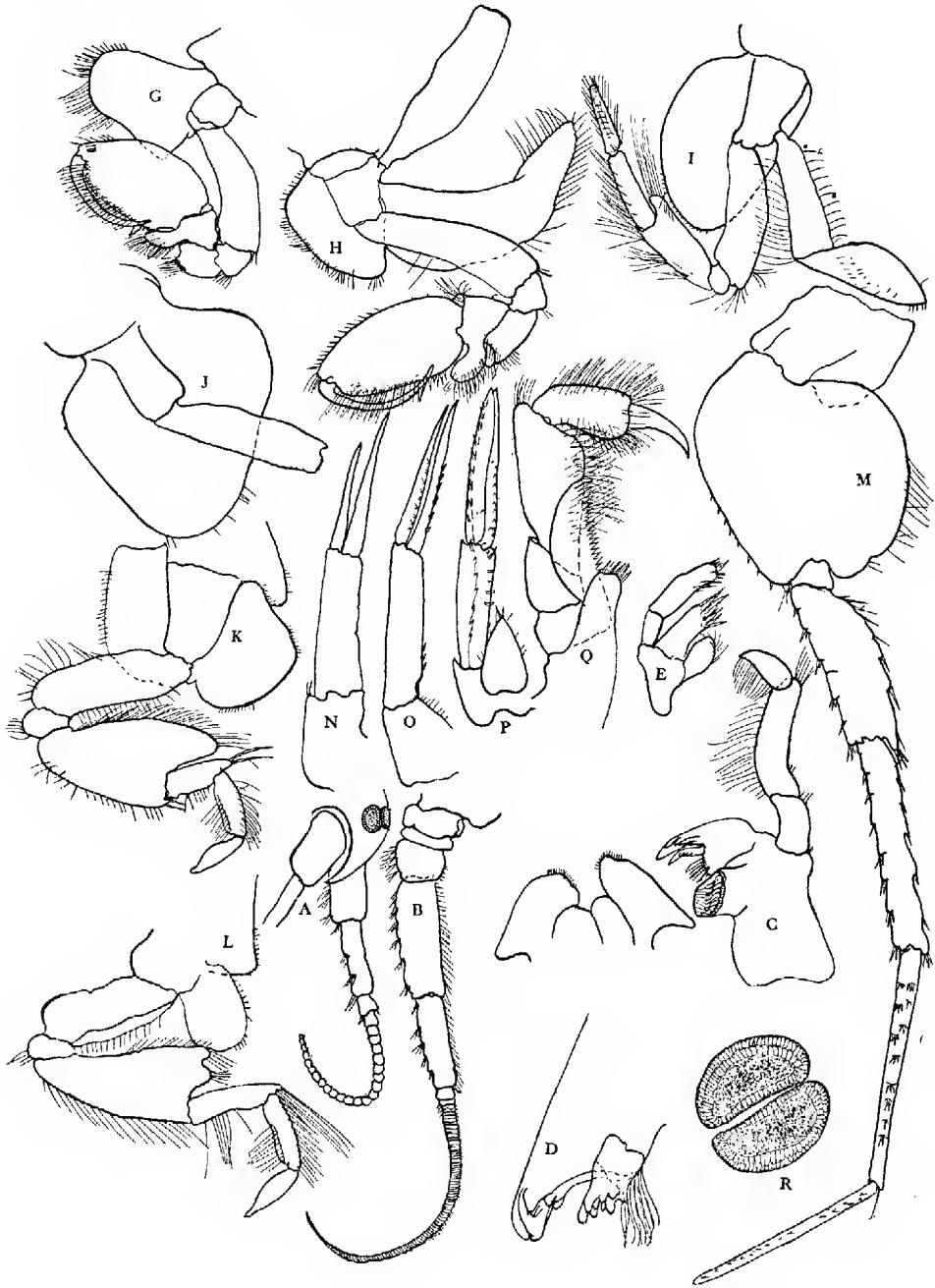
Gnathopods 1-2 alike, but first weaker and shorter than second; fifth joint about one-third length of oval sixth, lobe small but reaching to edge of very oblique palm, finger long, curved and slender, palm defined by two stout spines.

Peraeopods 1-2 weak, first with seventh joint apparently absent, second with seventh joint present as a very small finger; fourth joint of both forwardly produced on the posterior margin to a setose lobe. Peraeopods 3-4, second joint expanded, third ringlike, fourth longer than second and more widely expanded, in peraeopod 3 the distal edge is produced to a lobe nearly as long as the fifth joint, in peraeopod 4 this production is much shorter, bilobed; joints 5-6 subequal, the seventh joint is subequal to the fifth, leaf-shaped. Peraeopod 5, more than twice peraeopod 4; second joint sub-circular, third very small, fourth slightly expanded, fourth fifth and sixth joints progressively longer, spined; seventh equal to fifth but one-third as broad.

Uropod 1, outer ramus three-quarters inner, peduncle equal to inner ramus; uropod 2, rami subequal 1, inner equal to peduncle; uropod 3, rami equal, lanceolate, peduncle four-fifths of rami; uropod 1 equal to uropod 3; uropod 2 slightly longer. Uropods lightly spined.

*Locality*—South Australia: St. Vincent Gulf, Sellick's Beach. (Hale, April, 1936.)

Type, female, South Australian Museum. Length, 12 mm.



*K. S. del.*

Fig. 1.

*Oediceroides pirloti*, Male—A, antenna 1; B, antenna 2; C, mandible; D, cutting edge left mandible; E, maxilla 1; F, lower lip; G, gnathopod 1; H, gnathopod 2; I, pereopod 1; J, sideplate, pereopod 2; K-M, pereopods 3-5; N-P, uropods 1-3; Q, maxilliped; R, eyes.

Were more specimens of this form available, permitting a comparison of male and female and the mapping of individual variations, it would be possible to fix the generic position of the species more accurately; at present it is placed in *Oediceroides* Stebb., pending the revision of the southern species of the family. The fine denticulation of the margin of the molar process, the absence of the seventh joint of the first peraeopods, and the wide expansion of the fourth joints of peraeopods 3-4 are points of considerable interest.

The species is named in appreciation of the valuable discussion of Dr. J. M. Pirlot on the relationships of the group to which this family belongs.

#### REFERENCES.

BARNARD—Annals South Afr. Mus., vol. xv, pt. iii, pp. 162-167, 1916 (and references therein.)

BARNARD—Discovery Reports, vol. v, pp. 135-141, 1932.

PIRLOT—Siboga-Expeditie, Livr. cxvii, pp. 81-99, 107-108, 1932.

The following papers were not available for reference:

STEPHENSEN—The Danish Ingolf Exp., vol. iii, No. 11, 1931.

SCHELLENBERG—Furth. Zool. Res. Swed. Ant. Exp, 1901-3, vol. ii, No. 6.

#### Family AMPITHOIDAE.

##### Gen. GRUBIA Czern.

##### *Grubia variata*, sp. n.

Body robust. Sideplates moderately large. Antennae long. Sideplates 1-4 increasingly deeper and broader. Sideplate 1 produced forwards; sideplate 4, the largest, rounded below; sideplate 5 forward lobe square in outline, as deep as 3; sideplates 6-7 very shallow.

Eyes, small, rounded, on lateral lobes.

Antenna 1 with first and second joints subequal, third one-third of second, accessory flagellum of six joints, very slender; flagellum multi-jointed. The antenna is subequal in length to the body.

Antenna 2, extending to fifth peraeon segment; fourth and fifth joints subequal.

Upper lip longer than broad, terminal process furry.

Lower lip with inner lobes bifid, mandibular process relatively large.

Mandible with cutting edge and secondary cutting edge unidentate, spine row of 5-6 weak spines, molar plate large, palp slender, first joint slightly widened, subequal to third in length, second the longest.

Maxilla 1, inner plate, very small with one seta, outer with nine spines, palp, slender, with second joint three times first, tipped with setae. Maxilla 2 with inner edge setose.

Maxilliped with outer plate fringed with many very small teeth, saw like; inner small fringed with long setae; palp with first three joints expanded, third bearing on its distal edge plumose setae, and opposing the fourth joint are two strong setae bearing spines, the fourth joint bears what can best be described as a stout, movable spine.

Gnathopods 1-2 are of the same general pattern with the second joint apically lobed; in gnathopod 2 the fifth joint is produced on its infero distal angle to a setose lobe, and the whole appendage is stouter than the first.

Peraeopods 1-2 with the second joints a little expanded, the fourth joints are the next longest, slightly expanded on the anterior edge. Peraeopod 3 reverted, second joint expanded, joints 3-6 rounded, joint 6 the longest, finger small. Peraeopod 4, second joint moderately expanded, nearly twice as long as

broad, joints 4-5 subequal, joint 6 more than three times joint 3, finger strong. Peraeopod 5 longer than peraeopod 4, joint 6 equal to joint 2 in length.

Uropod 1 the longest, rami subequal, and subequal to the peduncle without its long stout terminal spine; uropod 2 with inner ramus slightly the shorter, both slightly shorter than peduncle; uropod 3 with stout peduncle and equal rami of little more than half its length; the outer ramus on the left side is furnished with two small terminal hooks, that on the right, with one, much stouter. The

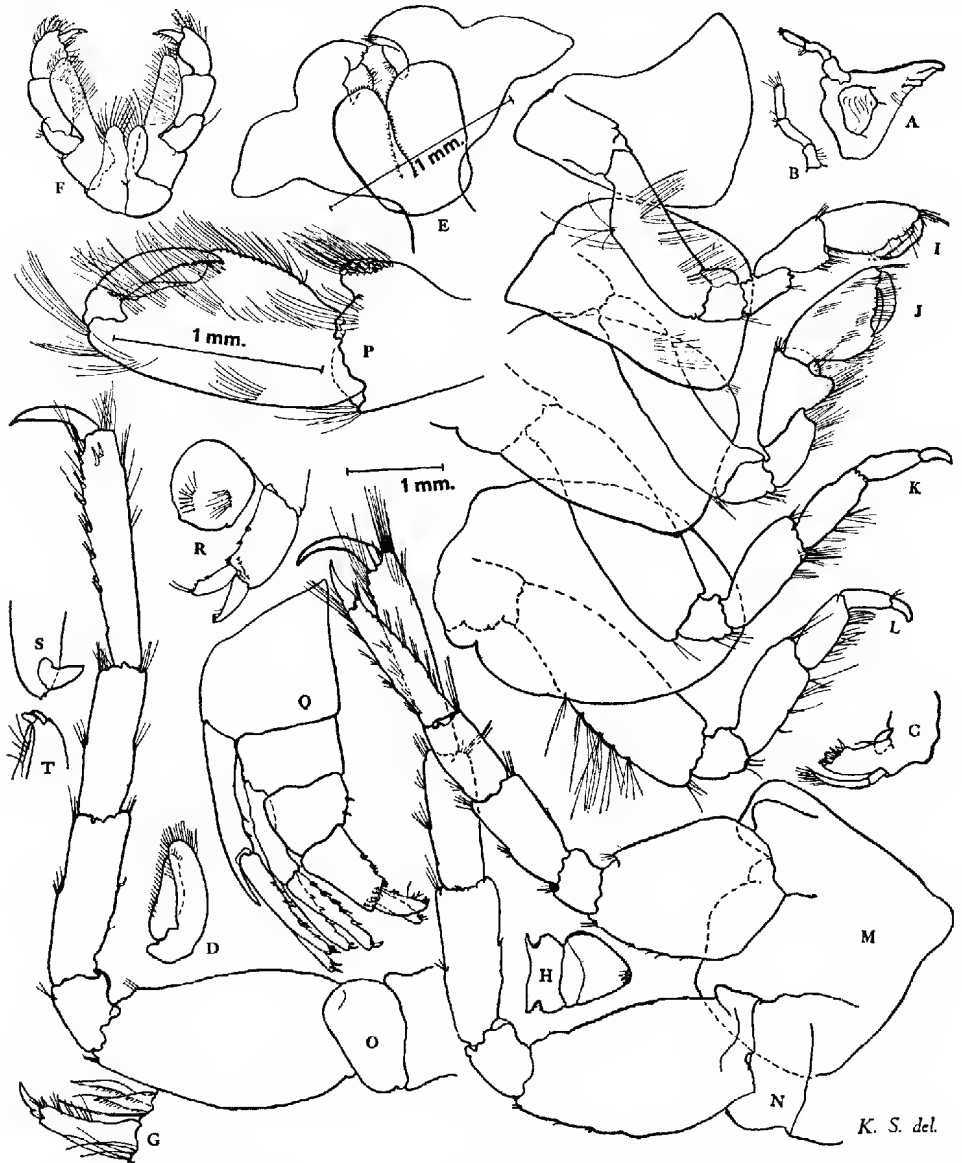


Fig. 2.

*Grubia variata*, Male—A, left mandible; B, palp, right mandible; C, maxilla 1; D, maxilla 2; E, lower lip; F, maxillipeds; G, joint 4 and spine, maxilliped; H, upper lip; I-J, gnathopods 1-2; K-O, peraeopods 1-5; P, terminal joints gnathopods 2; Q, uropods 1-3; R, uropod 3 and telson; S, spine of uropod 3, right; T, spines of uropod 3, left.

uropods are lightly armed with spines. The segment of uropod 3 bears two spines on each side of the dorsal surface.

Telson as broad as long, distal margin well defined, the dorsal surface bears two rows of spine-like setae.

The specimen is only moderately setose.

*Locality*—South Australia: St. Vincent Gulf, Sellick's Beach. (Hale, April, 1936.)

Type, male, South Australian Museum.

The female varies very little from the male, except that peraeopods 1-2 are shorter and more slender. The asymmetric arrangement of the hooked spines of uropod 3 is constant in both sexes.

For the present this Amphipod is given specific rank, but it is possible that future collections from Sellick's Beach may result in a series of specimens which may link it more closely with a known form.

It may be distinguished by the six jointed accessory flagellum; the comparative length and expansion of peraeopods 1-2, by the arrangement of the hooks on the third uropods, and by the jointed spine on the fourth joint of the palp of the maxillipeds.

#### REFERENCE.

1916 BARNARD, *Annals S. Afr. Mus.*, vol. xv, pt. iii, p. 257 (and biblio.).

#### Family GAMMARIDAE.

Gen. CERADOCUS A. Costa.

#### CERADOCUS RUBROMACULATUS (Stimps.).

Specimens which must be referred to this cosmopolitan species are very common in the material from Sellick's Reef.

The large male figured is typical of the form obtained, noteworthy being the equally developed second gnathopods, comparatively bare of armature, the downward extension of the second joints of peraeopods three to five and the length of uropod 1 which extends nearly as far as the tip of uropod 3.

The figures given are self-explanatory. Of interest is the varied forms of spines on the inner plate of the first maxilla.

Among the material are specimens of both sexes, evidently in different stages of growth, in which the variations of the proportions and shape of the gnathopods are considerable. It is evident that little reliance can be placed on these as specific characters in such cosmopolitan species. In this regard the work done on Growth Stages of Gammarus (E. W. Sexton, *Journ. Mar. Biol. Ass. of the U.K.*; n.s. 13, pp. 340-401, 1923-1925) and on Intersexes in Gammarus (Sexton and Huxley, *loc. cit.*, n.s. 12, 1919-1922, pp. 506-556) is of considerable value.

#### REFERENCE.

*Biol. Res. "Endeavour,"* vol. v, pt. ii, p. 71, Chilton, 1921.

#### Family GAMMARIDAE.

Gen. MAERA Leach.

#### MAERA MASTERSI (Haswell).

The Sellick's Beach specimens of this species vary slightly from Haswell's description, but not sufficient to warrant the establishment of a new species. As the existing description and figures are somewhat sketchy they are supplemented in this paper.

The variations from Haswell's description are (Compare *Das Tierreich*, lf. 21, p. 439):—

Accessory flagellum 10 jointed. Peraeopods 4-5 with the front margin of the second joint irregularly spined.

The following additional description is furnished: —

Mandible—Palp slender, second joint four-thirds length of third, cutting edge bidentate, secondary cutting edge quadridentate, molar not denticulate, spine row weak.

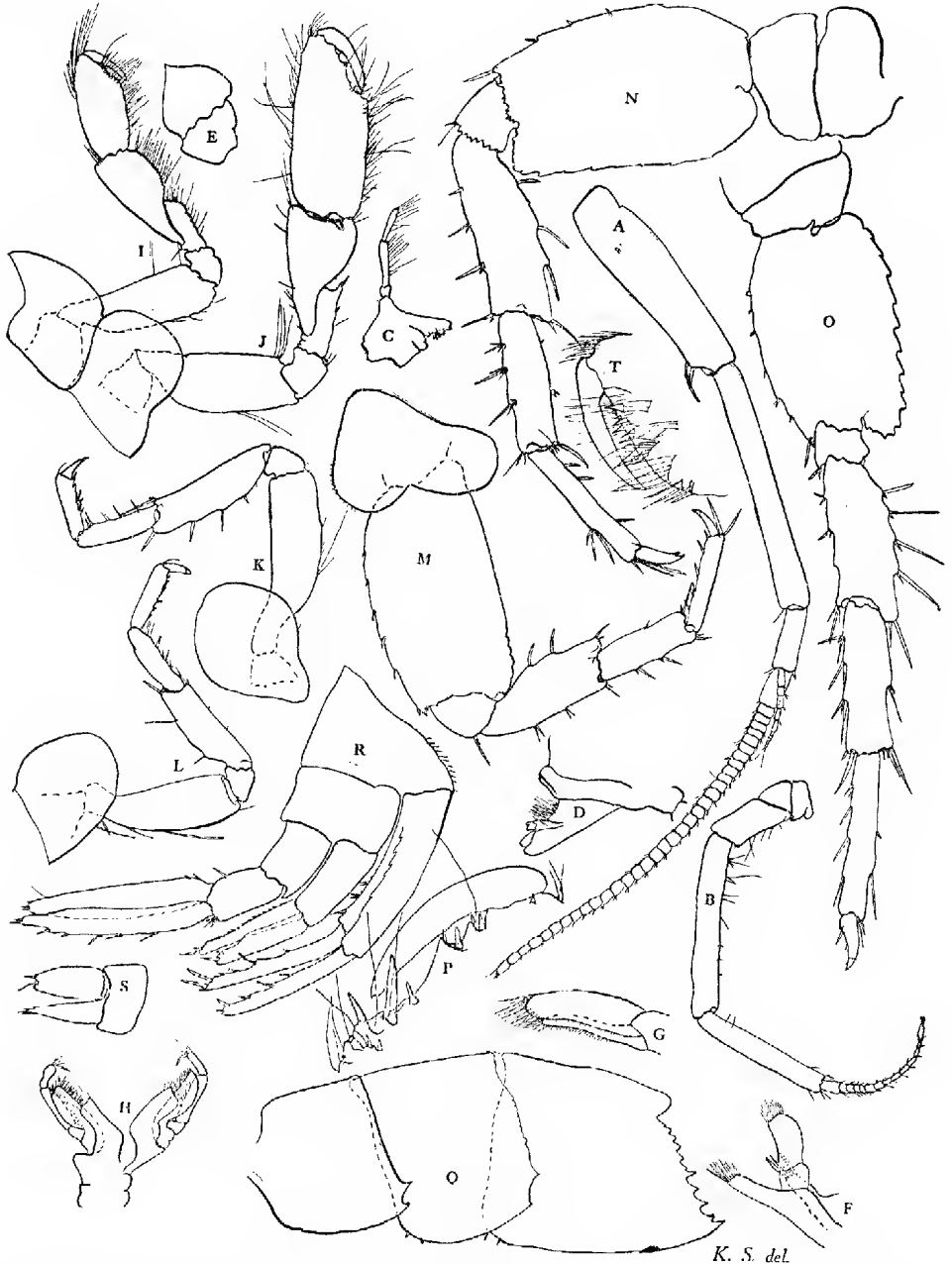


Fig. 3.

K. S. del.

*Macra mastersi* (Hasw.), Male—A, antenna 1; B, antenna 2; C, mandible; D, cutting edge, mandible; E, upper lip; F, maxilla 1; G, maxilla 2; H, maxilliped; I-J, gnathopods 1-2; K-O, peracopods 1-5; P, palm, gnathopod 2; Q, pleon segments 1-3; R, uropods 1-3; S, telson; T, palm gnathopod 1.

Maxilla 1, outer plate with eight weak spines, inner with three spines, palp with setae on apex only. Maxilla 2 with a light fringe of very short setae on the inner margins of both plates.

Maxilliped with the second joint of the palp not expanded, twice as long as third; appendage sparingly setose.

Gnathopods 1-2, the palmar armature varies somewhat in different specimens, those figured representing the average type.

Peraeopods 1-2, slender and lightly spined, joint four a little expanded along the hinder edge. Peraeopods 3-5, bear the following length ratios:  $9\frac{1}{2} : 12 : 11$ ,



Fig. 4.

*Ceradocus rubromaculatus* (Stimps.), Male—A, palp, mandible; B, cutting edge, right mandible; C, maxilla 2; D, outer plate, maxilla 1; E, tip of inner plate, maxilla 1; F-H, gnathopod 1; I-J, gnathopod 2; K, terminal joints, peraeopod 4; L, joints 1-3 and eye lobe, antenna 2.

and approximate closely in outline to those figured for *Ceradocus rubromaculatus* on pl. xciv of the Challenger reports.

Uropod 1 with rami subequal and subequal to dorsal edge of peduncle; uropod 2 equal to peduncle of uropod 1, rami subequal and subequal to peduncle; uropod 3, rami equal,  $2\frac{1}{2}$  times peduncle, shorter than uropod 1. Uropods 1-2 reach only a little beyond the peduncle of uropod 3.